

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for detecting the differentiation status of cells in a population of mammalian pluripotent stem cells mammalian embryonic stem cells comprising detecting [[the]] cell surface expression of 5T4 antigen in said stem on cells in the population of mammalian pluripotent stem cells, wherein 5T4 expression indicates [[stem]] cells in the population that are undergoing differentiation.
2. (Canceled)
3. (Canceled)
4. (Currently Amended) A method as claimed in claim 1 wherein said population of mammalian pluripotent stem cells [[are]] comprise embryonic stem cells, embryonic germ cells or embryonal carcinoma cells.
5. (Currently Amended) A method as claimed in claim 1 wherein said mammalian pluripotent stem cells are murine, human, primate, porcine, feline, bovine, ovine or canine.
6. (Currently Amended) A method of claim 1 wherein said cell surface expression of 5T4 expression is detected by anti-5T4 antibodies.
7. (Canceled)
8. (Currently Amended) A method of detecting differentiation status of a population of mammalian pluripotent embryonic stem cells comprising the steps of:
 - a) obtaining cells from the population of mammalian pluripotent stem cells taking a sample of cells from said population of mammalian embryonic stem cells;
 - b) incubating said cells sample with a labeled anti-5T4 antibody such that specific binding of anti-5T4 antibody to 5T4 antigen occurs; and

c) detecting said binding of said antibody wherein binding of the anti-5T4 antibody to cells ~~in the sample~~ is indicative of the presence of 5T4 and stem cells undergoing differentiation.

9. (Currently Amended) A method for separating ~~a population of~~ undifferentiated mammalian pluripotent embryonic stem cells [[or]] from mammalian embryonic stem cells undergoing differentiation with in a population of mammalian stem cells from a mixture of undifferentiated mammalian embryonic stem cells and mammalian embryonic stem cells undergoing differentiation comprising:

- a) incubating the population mammalian stem cells binding cells, in the mixture with anti-5T4 antibody, wherein 5T4 expression indicates stem cells that are undergoing differentiation;
- b) separating cells [[with]] bound to antibody from cells with no bound antibody; and
- c) isolating either the bound or unbound cells.

10. (Previously presented) A method as claimed in claim 9 wherein said isolated cells are viable.

11-20. (Canceled)

21. (New) The method according to claim 8, wherein the anti-5T4 antibody is labeled.

22. (New) The method according to claim 9, wherein the anti-5T4 antibody is labeled.

23. (New) The method according to claim 9, wherein the anti-5T4 antibody is immobilized.